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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/989,857	11/19/2001	Yan Hou	2207/13282	1241

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EXAMINER

MAI, TAN V

ART UNIT	PAPER NUMBER
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2124

DATE MAILED: 05/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/989,857

Applicant(s)

HOU ET AL.

Examiner

Tan V Mai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2002.
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-18 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 2-5-02 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner (see PTO-948)
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

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1. The abstract of the disclosure is objected to because superfluous language is used in this paragraph (i.e., "[t]he present invention provides"). Also, the Abstract contains the undefined acronyms "MAAC" and "AMAAC". All such acronyms should be defined at the instance of their first use within the Abstract. Correction is required. See MPEP § 608.01(b).

2. The disclosure is objected to because of the following informalities:

Page 2, line 17; "a signal For example" should be --a signal. For example--.

Appropriate correction is required.

3. Claims 2-5, 8-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per dependent claim 2, the term "the switching apparatus" lack antecedent basis. It is unclear whether or not the phrase "multipliers and adders to include a plurality of MAAC kernels" is the same as the **adders** and **multipliers** in independent claim 1. It is noted that, in independent claim 1, the "adders", "multipliers" and "switching fabric" are distinct components. Clarification is requested. Similarly noted claim 3.

As per dependent claims 8-9, the periods "." at the end are missing.

As per independent claim 10, the claim language is vague and indefinite. For instance, although the preamble of independent claim 10 claims "an hardware

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apparatus for computing an IDCT in one of a downsampling mode and a non-downsampling mode", the claim only recites THREE components. The claim fails to recite the necessary detail physical interconnection between these component to perform the recited function(s) nor are there any recitation describing how such an apparatus (or components) is actually provided in the apparatus. Sufficient detail apparatus or elements must be recited to adequately describe and constitute the proposed apparatus. Similarly noted independent claim 16 (there is NO input/output and interconnection). Both claim 10 and 16 seem to be incomplete in that they recite only a portion of the methodology required for the apparatus/processor to become operational, i.e., they omit essential elements and/or interconnection. See MPEP 2172.01.

As per independent claim 13, what are the input/output of the system? What is the relationship between AMAAC and MAAC?

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.⁷

5. Claims 1-7 and 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hung et al.

As per independent claim 1, Hung et al disclose, e.g., see Figs. 13a-13b, the invention substantially as claimed, including: a plurality of adders (e.g., adders 310 and 320), a plurality of multipliers (e.g. multipliers 314 and 324), and switching fabric (e.g.,

multiplexers 319, 325 & 329), It is noted that Hung et al do not specifically detail the claimed "downsampling / non-downsampling mode"; however, Hung et al do show the "downsampling (or upsampling) option" feature (e.g., see abstract). It would have been obvious to a person having ordinary skill in the art at the time the invention was made to design the claimed invention according to Hung et al's teachings because the device comprises multiply-accumulator means having multiplexer feature for providing the desired data of input(s) of adders as claimed.

As per dependent claims 2-5, the claims detail the MAAC & AMAAC. Hung et al show the detail of multiply-accumulator means, e.g., multiplier (314 or 324) & adder (318 or 328) for the claimed MAAC; and adder (310 or 320), multiplier (314 or 324) & adder (318 or 328) for the claimed AMAAC.

As per dependent claims 6-7, Hung et al show the claimed features DCT/IDCT.

Due to the similarity of claims 10-18 to claims 1-7, they are rejected under a similar rationale.

6. Claims 1-2, 4 and 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim.

As per independent claim 1, Kim discloses, e.g., see Fig. 6, the invention substantially as claimed, including: a plurality of adders (624-627), a plurality of multipliers (629-630), and switching fabric (i.e., multiplexers 620-623), It is noted that Kim does not specifically detail the claimed "downsampling / non-downsampling mode"; however, the multiplexer feature which coupled to the adder is considered the "switching mode". It would have been obvious to a person having ordinary skill in the art at the time the invention was made to design the claimed invention according to

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Kim's teachings because the device comprises multiply-accumulator means having multiplexer feature for providing the desired data of input(s) of adders as claimed.

As per dependent claims 2 & 4, the claims detail the MAAC. Kim shows the detail of multiply-accumulator means.

As per dependent claims 6-7, Kim shows the claimed features DCT/IDCT.

7. Claims 1-7 and 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwata.

As per independent claim 1, Iwata discloses, e.g., see Figs. 6-7, the invention substantially as claimed, including: a plurality of adders (i.e., elements "ACC & SHIFT" 64), a plurality of multipliers (e.g. multipliers 62), and switching fabric (e.g., multiplexers 74). It is noted that Iwata does not specifically detail the claimed "downsampling / non-downsampling mode"; however, the multiplexer feature which coupled to the adder is considered the "switching mode". It would have been obvious to a person having ordinary skill in the art at the time the invention was made to design the claimed invention according to Iwata's teachings because the device comprises multiply-accumulator means having multiplexer feature for providing the desired data of input(s) of adders as claimed.

As per dependent claims 2-5, the claims detail the MAAC & AMAAC. Iwata show the detail of multiply-accumulator means, e.g., multiplier (62) & elements "ACC & SHIFT" 64 for the claimed MAAC; and EALU (61), multiplier (62) & elements "ACC & SHIFT" 64 for the claimed AMAAC.

As per dependent claims 6-7, Iwata shows the claimed features DCT/IDCT.

Due to the similarity of claims 10-18 to claims 1-7, they are rejected under a similar rationale.

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8. Claims 8-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

9. The following is an examiner's statement of reasons for allowance: the recorded references do NOT teach or suggest the apparatus having the detail "expressions" feature as recited in dependent claims 8-9.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tan V. Mai whose telephone number is (703) 305-9761. The examiner can normally be reached on Tue-Fri from 6:30am to 5:00pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki, can be reached on (703) 305-9662. The fax phone numbers for the organization where this application or proceeding is assigned are:

After-final (703) 746-7238

Official (703) 746-7239

Non-Official/Draft (703) 746-7240.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.


TAN V. MAI
PRIMARY EXAMINER